REMARKS

In the Office Action dated October 16, 2002, the Examiner withdraws the allowability of claims 4, 7-10 and 13-18. The Examiner rejects claims 1-18, 20 and 21 under 35 U.S.C. § 103(a). With this Amendment, claim 13 has been amended. After entry of this Amendment, claims 1-18, 20 and 21 remain pending in the Application. For the reasons set forth hereinafter, it is respectfully submitted that the Applicant's invention as defined by the claims is not rendered obvious by the cited prior art either individually or in the combinations posed by the Examiner. Reconsideration of the Examiner's rejections is respectfully requested.

The Examiner rejects claim 1 and its dependent claims 2, 3, 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Lagarde et al. (5,857,553) in view of Bresson et al. (4,848,433). The Examiner states the Lagarde et al. teaches all of the elements of claim 1 except for an annular element mounted free of torsion on the gear box 1, the annular element diverting into the gear box a moment of torsion introduced by the driven shaft. The Examiner further states that Bresson et al. shows an annular element 12 mounted free of torsion on the gear box 1 and positioned between the wrap spring and the gear box I, the annular element 12 diverting into the gear box a moment of torsion introduced by the driven shaft. The Examiner states that it would have been obvious to include an annular element between the gear box and wrap spring as taught by Bresson et al. for the purpose of locking the driven shaft, which the Examiner states is a purpose of both Bresson et al. and Lagarde et al.

It is respectfully submitted that Lagarde et al. is directed to a one-speed reducing mechanism. In contrast, Bresson et al. teaches a speed reducing mechanism having a shaft 4 with one end 4a that is driven by an output member of a gear motor (not shown) and a toothed part or shaft 4b that functions as a planetary wheel with satellite wheels 5. (Bresson et al., col. 2, ll. 37-41). In Bresson et al., the satellite wheels 5 rotate with the toothed shaft 4b and the bushing 10 in a direct-drive mode. (Bresson et al., col. 3, ll. 1-7). In the reduced gear mode, the bushing 10 is secured from rotation by the radially-outward force of the spring 11 forcing the bushing against the lining 12. The teeth 10a of the bushing 10 are thus fixed for the rotation of the satellite wheels 5. (Bresson et al., col. 3, ll. 32-40; ll. 8-12). Thus, the spring 11 merely changes the transmission ratio to change the speed of the winding or unwinding of the ties associated with the slats of a shutter by holding and

releasing the bushing. (Bresson et al., col. 3, ll. 36-40). In Bresson et al., the spring 11 is not associated with a wrap-spring brake working against the gear box and is not a wrap spring securing the driven shaft against rotation upon disengagement of the electric motor drive. Further, the lining is not part of a wrap-spring brake for any shaft. The shaft 4 or any conventional hexagonal-section endpiece of a blind drum that may be inserted into the opening 9b is rotatable in any direction regardless of the position of the spring 11.

Further, even if the lining 12 were an annular element as described by the Applicant in claim 1, there is no teaching or suggestion in the prior art to incorporate this feature into the reducer taught by Lagarde et al. As previously explained, the Examiner's stated motivation, locking the driven shaft, does not exist in Bresson et al. Nor is there any teaching or suggestion in Lagarde et al. that such an annular element is needed or even desirable therein. In fact, the inclusion of an annular element between the spring 9 and cylindrical casing 1 is inconsistent with and may interfere with Lagarde et al.'s purpose of forming a compact unit using the two tubular seats 7, 10. For the foregoing reasons, claim 1 and its dependent claims 2, 3, 5 and 6 are allowable over the cited references.

In addition to the failure of the purported combination of Lagarde et al. and Bresson et al. to teach or suggest all of the features of claim 1, it is respectfully submitted that the Examiner is incorrect that Bresson et al. teaches the features of claim 2. The Examiner identifies the cylindrical box 1 of Bresson et al. as a gear box and states that the inner side of this box 1 has an inner toothing, identifying Fig. 3, near element 9a. However, whatever the single, unlabeled notch shown as part of the cylindrical box 1 is, it is not inner toothing. In addition, the friction lining 12 does not have inner toothing on the surface facing the inner side of the cylindrical box 1; the glued friction lining 12 merely fills the unlabeled notch. Because Bresson et al. fails to teach or suggest these features, the combination of Lagarde et al. and Bresson et al. fails to teach or suggest that the inner side of the gear box has an inner toothing and a jacket surface of the annular element facing toward the inner side of the gear box has a corresponding inner toothing. For these reasons, the invention as defined by claim 2 is not rendered obvious by the purported combination of Lagarde et al. and Bresson et al.

In regards to claim 5, it is further submitted that Bresson et al., and thus any purported combination of Bresson et al. with Lagarde et al., fails to teach or suggest the features therein. The Examiner states that Bresson et al. shows the planetary gear drive having a sun wheel as the gear input shaft where the gear input shaft is identified as element 4b. However, claim 1 specifies the gear input shaft is a different shaft from the drive shaft and the driven shaft. Bresson et al. has one shaft 4 with an one end 4a that is driven by an output member of a gear motor (not shown) and a toothed part or shaft 4b that functions as a planetary wheel with satellite wheels 5. (Bresson et al., col. 2, ll. 37-41). Even if the Applicant accepts for the sake of argument that the driven shaft 4 of Bresson et al. is the gear input shaft, it is clear that including such a shaft 4 in Lagarde et al. destroys the principal purpose of Lagarde et al. of including an Oldham coupling 14, which is a coupling that is designed to compensate for the non-alignment of the driven shaft 23 and the unlabeled shaft. Finally, the driven shaft 4 is not a sun wheel, such as the sun wheel 28 shown in Applicant's Figures 1, 2 and 8, and the side of the driven shaft 4 facing toward the wrap spring 11 does not have a plurality of lands curved in cross section, around which the wrap spring is positioned. The Examiner points to the chamber 10d and the sector-shaped projection 10e, but these elements are part of the bushing 10, not the driven shaft 4. In fact, the driven shaft 4 does not have a side facing toward the wrap spring 11 at all. The wrap spring 11 is positioned around the bushing 10, and the chamber 10d with the one sector-shaped projection 10e are not a plurality of lands curved in cross section in any case. Thus, the invention defined by claim 5 and its dependent claims 6, 11 and 12 is neither taught nor suggested by the purported combination of Lagarde et al. and Bresson et al.

It is additionally submitted that, contrary to the Examiner's representation, Bresson et al. fails to teach or suggest the feature of claim 6 that the planetary gear drive has planets, which roll off on the inner toothing on the inner side of the gear box. As discussed previously, the satellite wheels 5 of Bresson et al. rotate with the toothed shaft 4b and the bushing 10 in a direct-drive mode. (Bresson et al., col. 3, ll. 1-7). In the reduced gear mode, the bushing 10 is secured from rotation by the radially-outward force of the spring 11 forcing the bushing against the lining 12. The teeth 10a of the bushing 10 are thus fixed for the rotation of the satellite wheels 5. (Id., ll. 32-40; ll. 8-12). There is no inner toothing of the inner side of the cylindrical box 1. For the reasons set forth

with respect to claims 1 and 5, from which claim 6 depends, Applicant's invention as defined by claim 6 is not taught or suggested by any purported combination of Lagarde et al. and Bresson et al.

The Examiner also rejects claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Lagarde et al. in view of Bresson et al. First, it is respectfully submitted that the combination fails to teach or suggest the inclusion of an annular element as described by the Applicant in a purported combination of Lagarde et al. and Bresson et al. for the reasons set forth with respect to claim 1. In addition, Bresson et al. fails to teach or suggest that the lining 12, which the Examiner states is an annular element, has one of locking hooks and locking indentations on its periphery which can be engaged together with one of locking indentations and locking hooks respectively located on the inner side of the gear box. The Examiner states that Bresson et al. shows a similar structure in Fig. 3 near numerals 9 and 9a. It is respectfully submitted that the single, unlabeled element that appears to be a notch in the cylindrical housing is not locking indentations and the portion of the lining 12 that appears to be filling the notch is not locking hooks. There is no need for locking indentations or hooks in the design of Bresson et al. because the lining 12 is glued to the cylindrical casing in Bresson et al. (See col. 2, line 55).

The Examiner also rejects claim 7 and its dependent claims 8-10 and 13-18 under 35 U.S.C. § 103(a) as being unpatentable over Lagarde et al. in view of Bresson et al. The Examiner states that claim 7 is similar to claims 1 and 5 and is also rejected. However, it is respectfully submitted that any purported combination of Lagarde et al. and Bresson et al. fails to teach or suggest the feature of claim 7, as previously discussed with respect to claim 1, of a wrap-spring brake working against the gear box, including a wrap spring securing the driven shaft against rotation upon disengagement of the electric motor drive and an annular element positioned between the wrap spring and the gear box, the annular element diverting into the gear box a moment of torsion introduced by the driven shaft. In addition, it is respectfully submitted that Bresson et al., contrary to the Examiner's position, does not teach or suggest the features that the reducing gear has a planetary gear drive, and the planetary gear drive has a sun wheel as the gear input shaft and the side of the sun wheel facing toward the wrap spring has a plurality of lands curved in cross section, around which the wrap spring is positioned.

More specifically, and as stated with respect to claim 5, the Examiner's statement that the shaft 4b is a sun wheel operating as the gear input shaft is not consistent with the teachings in Bresson et al. Bresson et al. teaches a speed reducing mechanism having a shaft 4 with one end 4a that is driven by an output member of a gear motor (not shown) and a toothed part or shaft 4b that functions as a planetary wheel with satellite wheels 5. (Bresson et al., col. 2, ll. 37-41). Even if the Applicant the driven shaft 4 of Bresson et al. is used as a gear input shaft, using a unitary shaft 4 in Lagarde et al. destroys the principal purpose of Lagarde et al. of including an Oldham coupling 14 to compensate for the misalignment of the driven shaft 23 and the unlabeled shaft. Finally, it is respectfully submitted that the driven shaft 4 is not a sun wheel, such as the sun wheel 28 shown in Applicant's Figures 1, 2 and 8, and that the side of the shaft 4 facing toward the wrap spring 11 does not have a plurality of lands curved in cross section, around which the wrap spring is positioned. The Examiner points to the chamber 10d and the sector-shaped projection 10e, but these elements are part of the bushing 10, not the driven shaft 4. As previously mentioned, the driven shaft 4 does not have a side facing toward the wrap spring 11 at all. The wrap spring 11 is positioned around the bushing 10, and the chamber 10d with the one sector-shaped projection 10e are not a plurality of lands curved in cross section. For the foregoing reasons, the invention of claim 7 and its dependent claims 8-10 and 13-18 is not rendered obvious by the combination of Lagarde et al. and Bresson et al.

In addition to the foregoing, it is respectfully submitted that the Examiner has failed to make a prima facie case of obviousness with respect to claims 8-10 and 13-18. The Examiner states that Bresson et al. shows all of the features of these claims, but completely fails to identify where the features of these claims are in the prior art and how such features, if they exist, are obvious to include in combination with Lagarde et al. It is respectfully submitted that the Examiner cannot show these features. With respect to claim 8, since Bresson et al. fails to teach or suggest that the side of the sun wheel facing toward the wrap spring has a plurality of lands curved in cross section, around which the wrap spring is positioned, the Examiner cannot show that one land of this plurality of lands has a shoulder for receiving the one end of the wrap spring oriented on the longitudinal axis of the tube motor. With respect to claim 9, the driven shaft 4 does not have a side facing toward the wrap having a plurality of receiver lands, which

engage with a defined play in the free spaces between the lands of the sun wheel. Since no plurality of receiver lands are shown, one receiver land does not have a shoulder for receiving the other end of the wrap spring oriented on the longitudinal axis of the tube motor as described by the Applicant in claim 10.

A typographical error has been corrected in claim 13. It is respectfully submitted that Bresson et al. does not teach or suggest a cogwheel gear positioned between the drive shaft (not shown) and the driven shaft 4. The toothed shaft 4b is part of the driven shaft 4 and forms a planetary gear for the planetary wheels 5. Nor does Bresson et al. teach or suggest the feature of claim 14 that the drive shaft (not shown) obliquely toothed pinion, which pinion drives at least one cogwheel running axially to the drive shaft. With respect to claim 15, the Examiner fails to identify where in Bresson et al. at least one cogwheel is rotatably mounted on a cogwheel axis and fails to identify where the cogwheel axis is located on the side of the gear box facing toward the wrap-spring brake. Claim 16 depends from claim 14 and includes the feature wherein at least one cogwheel has a second reducing stage designed as a pinion driving a ring gear. It is respectfully submitted that neither Lagarde et al. nor Bresson et al. alone or in combination teach or suggest the need for such a second reducing stage. Similarly, they fail to teach or suggest the feature of claim 17 of including two symmetrically arranged cogwheels, each of which has a second reducing stage and drives a ring gear. Finally, the Examiner fails to identify the feature of claim 18, which depends from claim 16, wherein the side of the ring gear remote from the drive forms the drive shaft working together with the wrap-spring brake and the gear input shaft.

The Examiner also rejects claim 20 and its dependent claim 21 under 35 U.S.C. § 103(a) as being unpatentable over Lagarde et al. in view of Bresson et al., stating that they are similar to claims 1 and 5. Even though claims 20 and 21 are similar to claims 1 and 5, claims 20 and 21 are not the same as claims 1 and 5. First, it is respectfully submitted that neither Lagarde et al. nor Bresson et al. teaches or suggests a tube motor including an electric motor drive mounted on a drive shaft and a reducing gear coupling the drive shaft with a driven shaft located in a gear box. Lagarde et al. is directed to a one-speed reducing mechanism intended to be fastened to a motor with two lugs 25 and mounted in the frame of a blind 21. (Lagarde et al., col. 1, ll. 8-9; col. 2, ll. 60-64). The reducing gear is not part of a tube motor. Bresson et al. teaches

speed reducing mechanism having a shaft 4 driven by the output member of a gear motor. (Bresson et al., col. 2, ll. 32-36). As explained in more detail with respect to claim 1, in the reduced gear mode of Bresson et al. the bushing 10 is secured from rotation by the radially-outward force of the spring 11 forcing the bushing against the lining 12. The spring 11 merely changes the transmission ratio to change the speed of the winding or unwinding of the ties associated with the slats of a shutter by holding and releasing the bushing. (Bresson et al., col. 3, ll. 36-40). The spring 11 is not part of a wrap-spring brake securing the driven shaft from rotating opposite a direction of rotation of the electric motor drive. The lining 12 is similarly not part of a wrap-spring brake. The lining 12 of Bresson et al. does not absorb a moment of torsion resulting from the effort of the driven shaft to rotate opposite the direction of rotation of the electric motor drive as described in claim 21. The shaft 4 or any conventional hexagonal-section endpiece of a blind drum that may be inserted into the opening 9b is rotatable in any direction regardless of the position of the spring 11.

Further, even if the lining 12 were an annular element as described by the Applicant in claim 20, there is no teaching or suggestion in the prior art to incorporate this feature into the reducer taught by Lagarde et al. The Examiner's stated motivation, locking the driven shaft, does not exist in Bresson et al. Nor is there any teaching or suggestion in Lagarde et al. that such an annular element is needed or even desirable therein. In fact, the inclusion of an annular element between the spring 9 and cylindrical casing 1 is inconsistent with and may interfere with Lagarde et al.'s purpose of forming a compact unit using the two tubular seats 7, 10. For the foregoing reasons, claim 20 and its dependent claim 21 are allowable over the prior art of record.

In addition to the foregoing, it is respectfully submitted that the features of claim 21 are neither taught nor suggested by the prior art of record. Claim 21 teaches that the reducing gear includes a planetary gear assembly. A sun wheel includes a gear input shaft driving at least one planet of the planetary gear assembly. The sun wheel also includes at least one land radially disposed from the gear input shaft. The wrap spring is positioned around and engageable with the at least one land to rotate with the sun wheel in the direction of rotation of the electric motor drive. As explained in response to the rejection of claim 5, neither Bresson et al. nor any

purported combination of Bresson et al. with Lagarde et al. teaches or suggests the features described. The Examiner's position that the gear input shaft is the toothed part 4b of shaft 4 is incompatible with claim 20, which specifies the gear input shaft is a different shaft from the drive shaft and the driven shaft. Bresson et al. has one shaft 4 has one end 4a that is driven by an output member of a gear motor (not shown) and a toothed part or shaft 4b that functions as a planetary wheel with satellite wheels 5. (Bresson et al., col. 2, ll. 37-41). Even if the shaft 4 of Bresson et al. can be said to be the gear input shaft, it is clear that including such a shaft 4 in Lagarde et al. destroys the principal purpose of Lagarde et al. of including an Oldham coupling 14 to compensate for the non-alignment of the driven shaft 23 and the reduced-speed shaft (not labeled). Finally, the driven shaft 4 is not part of a sun wheel, such as the sun wheel 28 shown in Applicant's Figures 1, 2 and 8, where the sun wheel also includes at least one land radially disposed from the driven shaft 4 where the wrap spring is positioned around and engageable with the at least one land to rotate with the sun wheel in the direction of rotation of the electric motor drive. The wrap spring 11 is, instead, positioned around and engageable with the bushing 10. Thus, the invention defined by claim 21 is neither taught nor suggested by the purported combination of Lagarde et al. and Bresson et al.

The Examiner rejects claims 11 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Lagarde et al. in view of Bresson et al., and further in view of Ozaki (4,587,450). It is respectfully submitted that the addition of Ozaki to any combination of Lagarde et al. and Bresson et al. fails to teach the features of claims 1 and 5, from which claims 11 and 12 depend. Specifically, the combination fails to teach a wrap-spring brake as defined in claim 1 and fails to teach a sun wheel with a plurality of lands as defined in claim 5 because none of Lagarde et al., Bresson et al. or Ozake teaches these features. Thus, for the reasons stated with respect to claims 1 and 5, the combination fails to teach or suggest all of the features of claims 11 and 12.

It is respectfully submitted that this Amendment traverses and overcomes all of the Examiner's objections and rejections to the application. It is further submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the application as amended is requested. It is respectfully

submitted that this Amendment places the application in suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

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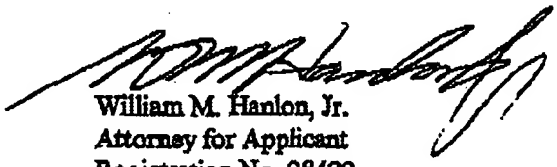

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

13. (Four times amended) The tube motor according to Claim 9, further comprising:

a cogwheel gear positioned between the drive shaft and the [drive] driven shaft.